This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently Amended) A method for processing ~~performing an inverse transform on~~ a block of transform coefficients, the block having rows and columns, the method comprising:

identifying zero patterns in the block of transform coefficients to derive zero pattern information, wherein identifying zero patterns comprises determining the location of zero values or near zero values for multiple rows ~~and for multiple columns~~ in the block of transform coefficients; ~~and~~

performing one-dimensional inverse transforms on a subset of the total number of rows ~~and columns~~ in the block of transform coefficients by using zero pattern information; and

rescaling data to meet bandwidth constraints.

2. (Original) The method of claim 1, wherein the block of transform coefficients is an MPEG encoded block of 8x8 discrete cosine transform (DCT) coefficients.

3. (Currently Amended) The method of claim 1, ~~wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients~~ further comprising setting a threshold for determining a near zero value in zero patterns.

4. Cancelled.

5. Cancelled.

6. (Currently Amended) The method of claim [[5]] 1, wherein performing one-dimensional inverse transforms further comprises performing one-dimensional transforms on all the columns in the block of transform coefficients.

7. Cancelled.

8. (Currently Amended) The method of claim [[7]] 1, wherein the transcoding is performed on MPEG bitstreams.

9. (Original) The method of claim 1, wherein performing one-dimensional inverse transforms occurs during decoding.

10. (Original) The method of claim 9, wherein the decoding is performed on MPEG bitstreams.

11. (Currently Amended) An apparatus for processing ~~performing one-dimensional inverse transforms~~ on the rows and columns of a block of transform coefficients, the apparatus comprising:

memory; and

a processor coupled with the memory, the processor configured to a) identify zero pattern information associated with the block of transform coefficients, wherein identifying the zero information comprises determining the location of zero values or near zero values for multiple rows ~~and for multiple columns~~ in the block of transform coefficients; ~~and~~ b) perform one-dimensional inverse transforms on a subset of rows ~~and columns~~ of the block of transform coefficients using the zero pattern information; and c) rescale data to meet bandwidth constraints.

12. (Original) The apparatus of claim 11, wherein the block of transform coefficients is an MPEG encoded block of 8x8 DCT coefficients.

13. (Currently Amended) The apparatus of claim 11, wherein ~~performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients~~ the processor is further configured to set a threshold for determining a near zero value in zero patterns.

14. Cancelled.

15. Cancelled.

16. (Currently Amended) The apparatus of claim [[15]] 11, wherein performing one-dimensional inverse transforms further comprises performing one-dimensional transforms on all the columns in the block of transform coefficients.

17. Cancelled.

18. (Currently Amended) The apparatus of claim [[17]] 11, wherein the ~~transcoding~~ rescaling is performed on MPEG bitstreams.

19. (Original) The apparatus of claim 11, wherein performing one-dimensional inverse transforms occurs during decoding.

20. (Original) The apparatus of claim 19, wherein the decoding is performed on MPEG bitstreams.

21. (Original) The apparatus of claim 11, wherein the memory and processor are associated with a cable modem headend line card.

22. Cancelled.

23. (Original) The apparatus of claim 11, wherein the memory and processor are associated with a transcoding system.

24. (Currently Amended) An apparatus for processing ~~performing an inverse transform on~~ a block of transform coefficients, the block having rows and columns, the method comprising:

means for identifying zero patterns in the block of transform coefficients to derive zero pattern information, wherein identifying zero patterns comprises determining the location of zero values or near zero values for multiple rows ~~and for multiple columns~~ in the block of transform coefficients; ~~and~~

means for performing one-dimensional inverse transforms on a subset of the total number of rows ~~and columns~~ in the block of transform coefficients by using zero pattern information; and

means for rescaling data to meet bandwidth constraints.

25. (Original) The apparatus of claim 24, wherein the block of transform coefficients is an MPEG encoded block (8x8 DCT coefficients).

26. (Currently Amended) The apparatus of claim 24, ~~wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients~~ further comprising setting a threshold for determining a near zero value in zero patterns.

27. Cancelled.

28. Cancelled.

29. (Currently Amended) The apparatus of claim [[28]] 24, wherein performing one-dimensional inverse transforms further comprises performing one-dimensional transforms on all the columns in the block of transform coefficients.

30. (Original) The apparatus of claim 24, wherein performing one-dimensional inverse transforms occurs during transcoding.

31. (Original) The apparatus of claim 30, wherein the transcoding is performed on MPEG bitstreams.

32. (Original) The apparatus of claim 24, wherein performing one-dimensional inverse transforms occurs during decoding.

33. (Original) The apparatus of claim 32, wherein the decoding is performed on MPEG bitstreams.

34. (Currently Amended) A computer readable medium comprising computer code for processing ~~performing an inverse transform on~~ a block of transform coefficients, the block having rows and columns, the computer readable medium comprising:

computer code for setting a threshold for determining a near zero value in zero patterns;

computer code for identifying zero patterns in the block of transform coefficients to derive zero pattern information, wherein identifying zero patterns comprises determining the location of zero values or near zero values for multiple rows and for multiple columns in the block of transform coefficients; ~~and~~

computer code for performing one-dimensional inverse transforms on a subset of the total number of rows and columns in the block of transform coefficients by using zero pattern information; and

computer code for rescaling data to meet bandwidth constraints.

35. (Original) The computer readable medium of claim 34, wherein the block of transform coefficients is an MPEG encoded block.

36. (Currently Amended) The computer readable medium of claim 34, ~~wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients~~ further comprising setting a threshold for determining a near zero value in zero patterns.

37. Cancelled.

38. Cancelled.

39. (Currently Amended) The computer readable medium of claim [[38]] 34, wherein performing one-dimensional inverse transforms further comprises performing one-dimensional transforms on all the columns in the block of transform coefficients.

40. (Original) The computer readable medium of claim 34, wherein performing one-dimensional inverse transforms occurs during transcoding.

41. (Original) The computer readable medium of claim 40, wherein the transcoding is performed on MPEG bitstreams.

42. (Original) The computer readable medium of claim 34, wherein performing one-dimensional inverse transforms occurs during decoding.

43. (Original) The computer readable medium of claim 42, wherein the decoding is performed on MPEG bitstreams.